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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,935	04/21/2004	David G. Gorenstein	UTMB:1024	5115

7590 01/04/2007
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EXAMINER

WESSENDORF, TERESA D

ART UNIT	PAPER NUMBER
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1639

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/828,935

Applicant(s)

GORENSTEIN ET AL.

Examiner

T. D. Wessendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5, 9, 11, 12, 15, 17 and 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-8, 10, 13, 14, 16, 18 and 25-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, (claims 1-29) is acknowledged. The traversal is on the ground(s) that due to the nature of Groups I-III and IV they would all fall within the same class, albeit no class is listed in the action. They all have similar structure, effect and function and may be examined together without the need to reach into other classes. This is not found persuasive because the search is not limited to only the classes found in U.S. Patents but is extended to literature journals comprising of several databases and foreign Patents. The search of which is not co-extensive with U.S. Patents. Furthermore, as stated in the last Office action, due to the structural differences in the compounds in each Group, hence, a burden of examination would be required to examine the different structures of the Groups.

The requirement is still deemed proper and is therefore made FINAL.

Applicants' election of the species on 7/5/2005 and 10/19/2005, aptamers with phosphorothioate is also noted. Applicants assert that the similarity among the different species e.g., phosphorodithioate, phosphorothioate and methylphosphonate linkages are apparent. But fail to state the

apparent similarity. While these are phospho derivatives however, the moiety attached therein is not structurally similar. The election made on 10/19/2005 is also noted. However, the election with respect to phosphorothioate as the species is considered to meet the requirement and is sufficient.

Claims 5-6, 12, 15, 22-24, 27, 32 and 34-72 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election).

Status of Claims

Claims 1-29 are pending

Claims 3, 5, 9, 11-12, 15, 17 and 19-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species.

Claims 1-2, 4, 6-8, 10, 13-14, 16, 18 and 25-29 are under examination.

Specification

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code at page 49, line 20. Applicants are required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors (typographical, grammatical and idiomatic). Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is unclear as to whether the target is a fluorescent agent as recited. Cf. with claim 13.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another

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who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2, 4, 6-8, 10, 13-14, 16, 18 and 25-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Hess et al (6716629).

Hess discloses at col. 13, line 65 up to col. 44, line 31:

DETAILED DESCRIPTION OF THE INVENTION

The invention provides methods of creating, storing, and screening diverse chemical and biological compositions, each contained in a through-hole that traverses a platen, as well as methods for making and using platens. In certain embodiments, the methods include transmitting reagents to a selected group of holes in a dense array of through-holes. Additional rounds of reagent transmission are provided as needed. The invention also provides for placing a series of masks over a planar array of through-holes and flowing reagents through the masks to build a defined pattern of probes or reagents such that the contents of each through-hole can be known. In an alternate embodiment, the invention provides distributing probe-holding particles, such as beads or cells, into the array of through-holes. Such probes include, but are not limited to, nucleic acids, **peptides**, small molecules, and chemical sensing cells. Uses of the arrays include screening of genetic libraries, producing and screening compound libraries for discovery of pharmaceutical leads, optimization of reaction conditions, gene expression analysis, clinical diagnostics, genomics, functional genomics, pharmacogenomics, structural genomics, proteomics, production and optimization of industrial catalysts, chemical genetics,

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identification of suitable conditions for reactions (e.g., conditions suitable for protein crystallization), genotyping, polymorphism analysis, examination of RNA expression profiles in cells or tissues, sequencing by hybridization, and recombinant enzyme discovery.

Additives to the resin or polymer can be used to improve the sensitivity of optical imaging of the array. For example, metal particles can be added to make the material between the through-holes. The metal particles enable light to scatter, causing a fluorescent signal generated by a probe in a through-hole to reflect toward the detector and to prevent cross-talk of signals. Alternatively, carbon black may be added to make the material, preventing cross-talk and minimizing signal from light scattered off the surface of the array. More preferably, a combination of a light scattering agent such as titanium dioxide and a light absorbing agent, such as carbon black are added to the resin or polymer to achieve maximum optical density between the holes.

Selectively Modifying the Surface Chemistry of Through-Hole Surfaces

Another method for selectively coating through-hole surfaces involves using a **robot** to position a fine needle or an array of fine needles proximal to the entrance of each through-hole. Chemical surface-modifying reagents can then be delivered through this needle/capillary directly into individual holes

Transferring/Mixing Samples in a Through-Hole Array with Samples on a Flat Surface

Alternatively the flat surface can support an array of probes, such as fluorescently labeled oligonucleotides, chemical substrates, or cells, matched to a through-hole array containing samples. The probes can be attached to the surface in a variety of methods: they can be chemically or physically absorbed on the surface, trapped in a porous matrix, attached with an adhesion layer, or contained in a drop of liquid. The probes can be used to generate a change in a detectable physical property of the sample (such as fluorescence, optical absorption or mass) in response to a chemical or biological characteristic of the sample as binding activity or enzyme activity.

Matrix Assisted Laser Desorption Ionization Time of Flight Mass Spectrometry (MALDI TOF-MS)

MALDI TOF-MS analysis, a sample of interest is generally mixed with one or more matrix-forming compounds. Typically, a saturated solution of an organic matrix material (e.g., derivatives of hydroxycinnamic acid) is mixed with an equal volume of sample. In some applications of MALDI TOF-MS, the organic matrix compound is replaced by inorganic nanoparticles (e.g., colloidal gold, quantum dots, or porous silica). The mixture is then spotted in the form of a regular and addressable

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array on a flat plate and allowed to evaporate completely. The sample plate is then positioned in the mass spectrometer, and the samples are ionized by irradiation from a pulsed laser.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is (571) 272-0812. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Schultz can be contacted at (571) 272-0763. The organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


T. D. Wessendorf
Primary Examiner
Art Unit 1639

tdw

December 26, 2006